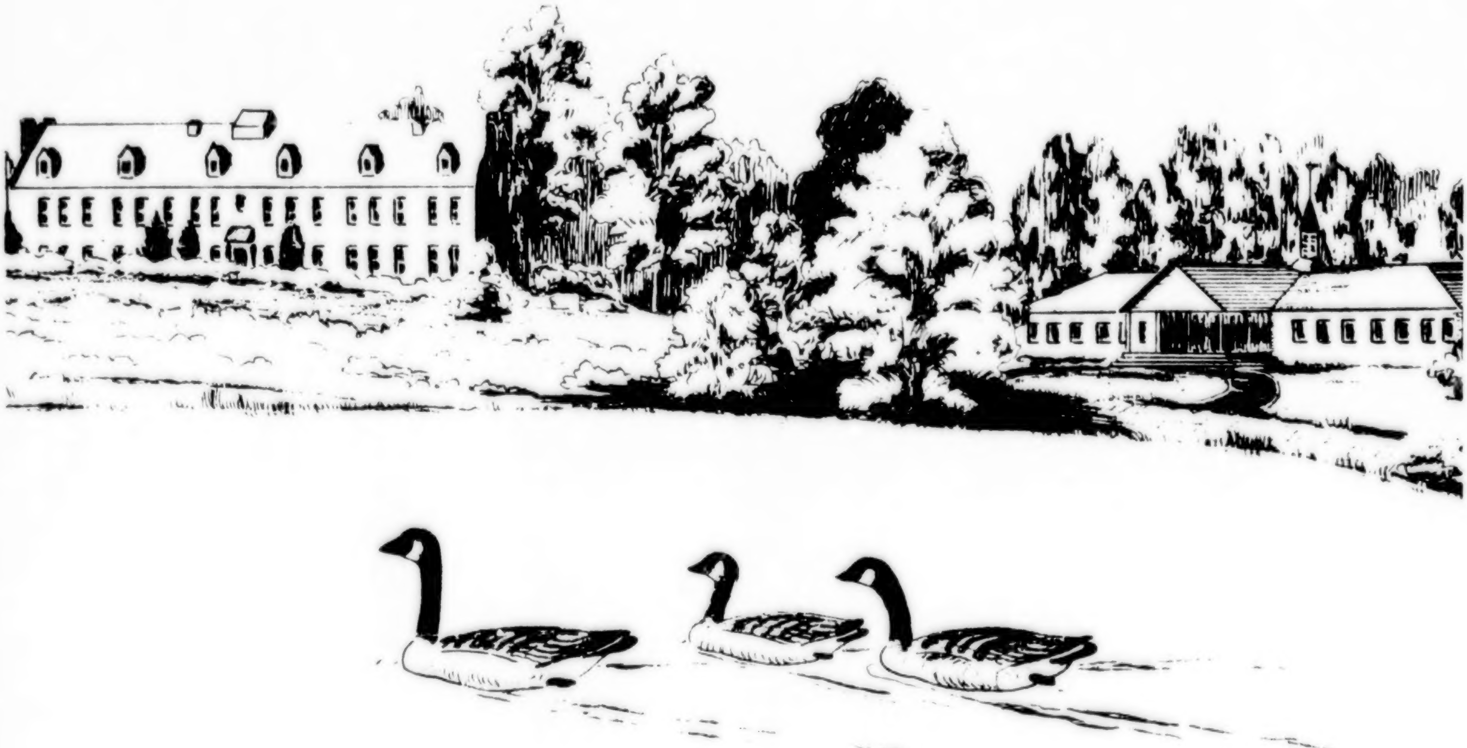
FEB 3 1988

611-R-1

I 49.89/2:88(2)

Biological Report 88(2)
January 1988

An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife Research Center: 1940–1987



Fish and Wildlife Service

U.S. Department of the Interior

COMPLETED

ORIGINAL

UOD

Library of Congress Cataloging-in-Publication Data

Hall, Russell James, 1943-
An annotated bibliography of field studies conducted on the Patuxent Wildlife Research Center, 1940–1987.

(Biological report ; 88 (2))
Supt. of Docs. no.: I 49.89/2:88 (2)
1. Ecology—Maryland—Patuxent River Watershed—Bibliography. 2. Ecology—Maryland—Patuxent River Watershed—Field work—Bibliography. 3. Patuxent Wildlife Research Center—Bibliography. I. U.S. Fish and Wildlife Service. II. Title. III. Series: Biological report (Washington D.C.) ; 88-2.
Z7408.U5H34 1988 016.5745'09752'41 87-600466
[QH105.M3]

This report may be cited as follows:

Hall, Russell J. 1988. An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife Research Center: 1940–1987. U.S. Fish Wildl. Serv., Biol. Rep. 88(2). 16 pp.

Biological Report 88(2)
January 1988

An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife Research Center: 1940–1987

by

Russell J. Hall

Patuxent Wildlife Research Center
U.S. Fish and Wildlife Service
Laurel, MD 20708

Fish and Wildlife Service
U.S. Department of the Interior
Washington, D.C. 20204

11

An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife Research Center: 1940–1987

Introduction

This preliminary bibliography of studies conducted in the natural ecological communities of the Patuxent Wildlife Research Center is intended to fill a variety of needs. One is to document the biological knowledge that has accumulated on this 4,700 acre tract; studies conducted over the years have made it biologically one of the best known areas of its size and have resulted in tremendous enhancement of its value as a resource to wildlife research. Another objective is to encourage greater use of the Center by investigators from other organizations; a record of the base of knowledge on the area should make it much more attractive for ecological research of all kinds. A third objective is to provide a context that may lead to more productive lines of future research.

When it was established in 1936 and developed in the ensuing years, the Patuxent Wildlife Research Center (known as the Patuxent Research Refuge until 1960) was an ideal location to address one of the central problems in wildlife management of the time. Major shifts in agricultural economics and evidence that wildlife populations in general were severely depleted suggested that both improved farming practices and reclamation of abandoned farmland as wildlife habitat could bring about restoration of wildlife. Located on unused farmland and adjacent to the Beltsville Agricultural Research Center, Patuxent was to become heavily involved in research on the effects of farming practices on wildlife and on methods of creating wildlife habitat. It is fortuitous that events have made Patuxent an excellent location to study one of the central questions in contemporary wildlife management. Declining wildlife populations, endangerment of more and more species, and loss of prime habitat call into question whether wildlife can coexist with urbanization, industrialization and human population growth. Patuxent no longer looks like reclaimed farmland, but rather an island of wilderness amidst a rising tide of development.

Patuxent has always had a national mission; studying a few thousand acres in Maryland has never been the point. In the course of developing knowledge applicable across the country, however, a specialized base of knowledge on the Patuxent lands has come into being. The existence of this base makes the Center uniquely suited for the many studies of national scope and significance needed in the future.

Decisions on what to include and what to exclude had to be made at the outset, and applied as each potential entry. It was decided that studies done in pens with captive animals would not be included, but that experimental studies done with natural populations would, because they often reveal much about the ecology of the free-living populations. References to national or regional surveys that include Patuxent, such as the Christmas Bird Count, are usually not cited, as their number would be large and their existence is well known to most wildlife scientists. Citation of unpublished studies, or those in the "gray literature," has been done frequently, particularly when copies are available in the Patuxent Wildlife Research Center Library. Though these works may not qualify as publications by some criteria, their cumulative information content is significant. Administrative progress reports were done annually or more frequently over the years. These are available at Patuxent and they may often contain details not found in published papers. They have not, however, been cited in this bibiography.

One item listed, Vegetation and Vertebrates of the Patuxent Wildlife Research Center by W. H. Stickel, deserves special comment. It includes lists of important biota and a reprint of the long unavailable paper by Hotchkiss and Stewart (1947) on the vegetation of the Center. A color vegetation map was produced with the earlier paper, but never distributed. Copies of the Stickel reprint and compilation are available to research scientists interested in working on the Center, as are copies of the vegetation map. Both might prove helpful in planning studies.

Though all parts of the Patuxent Wildlife Research Center have been used for research of one kind or another, the 472-acre bottomland forest has received special attention. Located on the alluvial floodplain of the Patuxent River, this community includes luxuriant vegetation that, for a variety of reasons, was never subjected to wholesale clearing and conversion to agriculture. One island of approximately 5 acres is thought never to have been logged and is dominated by beech *(Fagus grandifolia),* the climax species of the forest overstory. Visitors to Patuxent have commented that the Patuxent Wildlife Research Center bottomland forest may be the finest example of its type remaining in the eastern United States.

This bibliography is doubtless far from complete and it is to be expected that there are both major and minor gaps in the record it seeks to establish. It is being released at this time in the hope that those with knowledge of other studies will bring them to my attention so that they can be incorporated into future revisons. Least well documented are studies that may have been conducted on lands that were not part of the 2,650 acres originally set aside as the Patuxent refuge. The bulk of the 1,000 acres that have accrued to Patuxent since establishment were U.S. Department of Agriculture lands that surely played some role in research conducted by that agency.

Effort in studying the Patuxent lands has been relatively constant over the years. The 228 papers recorded to date are distributed by decade as follows:

1940–1949	32
1950–1959	46
1960–1969	54
1970–1979	41
1980–1987	55

The largest single category of papers is wildlife ecology, accounting for 42.5% of the total and distributed relatively evenly over the years. Research on wildlife disease and parasitology accounts for 21% of the total and is concentrated in the 1950's and 1960's, reflecting the shift of this work to other centers in the early 1970's. Pesticide and environmental contaminant research constitutes 14% of the total and is concentrated in the early (1940–1959) and most recent (1980–1987) intervals, apparently reflecting changing priorities in this always prominent program. Publications on habitat management comprise 7% of the total; they are concentrated in the 1950's and 1960's and probably underrepresent the total effort.

Various people have helped in the assembly of this bibliography. Lynda Garrett, Patuxent Wildlife Research Center librarian helped in various ways, one of which was in providing me with a card file with numerous references to work on Patuxent that was assembled about 1980 by William H. Stickel and Chandler S. Robbins. Nancy A. Bushby conducted an electronic literature search that permitted identification of several papers published by outside investigators who had left upon completion of their work and had subsequently lost communication with Patuxent. Joyce Haber obtained materials through interlibrary loan. Russell A. Dyrland, Elwood F. Hill, Louis N. Locke, Brooke Meanley, James D. Nichols, Chandler S. Robbins, Lucille F. Stickel and others provided helpful comments or leads on references that were overlooked in the initial drafts.

RJH
October 9, 1987

Bibliography

Albers, P. H., and R. M. Prouty. 1987. Survival of spotted salamander eggs in temporary woodland ponds of coastal Maryland. Environ. Pollut. 46:45–61.

Salamander reproduction studied in ten bottomland ponds on the Patuxent Wildlife Research Center.

Albers, P. H., L. Sileo, and B. M. Mulhern. 1986. Effects of environmental contaminants on snapping turtles of a tidal wetland. Arch. Environ. Contam. Toxicol. 15:39–49.

Control samples collected, growth studies conducted at Patuxent Wildlife Research Center.

Allen, D. W., W. Rosene, Jr., and O. Warbach. 1951. Wildlife investigations on agricultural lands: report of progress. Unpublished Report, U.S. Fish Wildl. Serv., Branch Wildl. Res. 23 pp.

Describes farm wildlife experiments and preliminary results.

Allison, J. T. 1966. The Patuxent River. Report number 4. Physical, chemical, and bacteriological water quality. State of Maryland Department of Water Resources. xi + 70 pp.

Four stations at Patuxent Wildlife Research Center sampled in 1964, 1965, and 1966.

Armstrong, W. H. 1941. Some autopsy findings in fur animals: summary of post-mortem examinations at Patuxent Research Refuge, Bowie, Maryland. Am. Fur Breeder 13:28–30.

Some animals were probably from Patuxent lands – sources of animals not specified in text.

Beyer, W. N., and E. J. Cromartie. 1987. A survey of Pb, Cu, Zn, Cd, Cr, As, and Se in earthworms and soil from diverse sites. Environ. Monit. Assess. 8:27–36.

Levels reported in four natural sites at Patuxent Wildlife Research Center.

Beyer, W. N., and C. D. Gish. 1980. Persistence in earthworms and potential hazards to birds of soil applied DDT, dieldrin, and heptachlor. J. Appl. Ecol. 17:295–307.

Experiment begun in 1966.

Beyer, W. N., G. Hensler, and J. Moore. 1987. Relation of pH and other soil variables to concentrations of Pb, Cu, Zn, Cd, and Se in earthworms. Pedobiologia 30:167–172.

Metal levels measured in naturally-occurring earthworms from treated soils on Patuxent Wildlife Research Center.

Beyer, W. N., and T. E. Kaiser. 1984. Organochlorine pesticide residues in moths from the Baltimore, MD–Washington, D.C. area. Environ. Monit. Assess. 4:129–137.

Moths collected at Patuxent Wildlife Research Center and 14 other sites.

Beyer, W. N., and J. Moore. 1980. Lead residues in eastern tent caterpillars (*Malacosoma americanum*) and their host plant (*Prunus serotina*) close to a major highway. Environ. Entomol. 9:10–12.

Patuxent Wildlife Research Center served as a control site.

Birdsall, C. W., C. E. Grue, and A. Anderson. 1986. Lead concentrations in bullfrog *Rana catesbeiana* and green frog *R. clamitans* tadpoles inhabiting highway drainages. Environ. Pollut. (Ser. A) Ecol. Biol. 40:233–247.

Collections made at five sites on Patuxent Wildlife Research Center to assess effects of automotive pollution.

Bruce, J. I., L. M. Llewellyn, and E. H. Sadun. 1961. Susceptibility of wild animals to infection by *Schistosoma mansoni.* J. Parasitol. 47:752–756.

Mammals trapped in Baltimore–Washington area (presumably including Patuxent Wildlife Research Center) examined for natural occurrence of the parasite and tested for susceptibility.

Buckley, J. L. 1961. Patuxent Wildlife Research Center. U.S. Fish Wildl. Serv. Circular 107. 24 pp.

Description of programs and on-going research.

Byrne, R. J., F. M. Hetrick, J. E. Scanlon, J. W. Hastings, Jr., and L. M. Locke. 1961. Observations on eastern equine encephalitis in Maryland in 1959. J. Am. Vet. Med. Assoc. 139:661–664.

Eastern equine encephalitis reported in House Sparrows (*Passer domesticus*) collected at Patuxent Wildlife Research Center.

Bystrak, D. 1985. Patuxent Wildlife Research Center. Pages 56–57 *in* C. S. Robbins, editor. Atlantic Flyway Review: Region V. N. Am. Bird Bander 10:53–60.

Summarizes banding conducted in the power line right-of-way that traverses Patuxent Wildlife Research Center.

Carpenter, J. W., F. J. Dein, and G. G. Clark. 1987. An outbreak of eastern equine encephalitis in captive Whooping Cranes. Pages 123–127 *in* J. C. Lewis, ed. Proceedings of the 1985 Crane

Workshop. Platte River Maintenance Trust and U.S. Fish and Wildlife Service. viii + 415 pp.

The virus and its mosquito vector discovered at Patuxent Wildlife Research Center.

Carroll, J. F., and J. J. Grasela. 1986. Occurrence of adult American dog ticks, *Dermacentor variabilis* (Say) around small mammal traps and vertebrate carcasses. Proc. Entomol. Soc. Wash. 88:77–82.

Done in conjunction with *Microtus* study (see Nichols et al. 1984).

Carroll, J. F., and J. D. Nichols. 1986. Parasitization of meadow voles *Microtus pennsylvanicus* (Ord) by American dog ticks, *Dermacentor variabilis* (Say), and adult tick movement during high host density. J. Entomol. Sci. 21:102–113.

Study conducted in conjunction with a small mammal study in an open field habitat at Patuxent.

Chaffee, E. F., E. H. Fife, Jr., and J. F. Kent. 1956. Diagnosis of *Trypanosoma cruzi* infection by complement fixation. Am. J. Trop. Med. Hyg. 5:763–771.

Parasite isolated from a Patuxent raccoon (*Procyon lotor*).

Clark, D. R., Jr., and B. A. Rattner. 1987. Orthene toxicity to little brown bats *(Myotis lucifugus)*: acetylcholinesterase inhibition, coordination loss, and mortality. Environ. Toxicol. Chem. 6:705–708.

Cholinesterase activities in bats from Patuxent Wildlife Research Center reported.

Clark, G. M. 1958. One new and one previously unreported species of nasal mite (Acarina, Speleognathidae) from North American birds. Proc. Helminth. Soc. Wash. 25:78–86.

Type specimen collected from the Patuxent Wildlife Research Center.

Clark, G. M. 1960. Three new nasal mites (Acarina: Speleognathidae) from the gray squirrel, the Common Grackle, and the meadowlark in the United States. Proc. Helminth. Soc. Wash. 27:103–110.

Type locality of two species is Patuxent Wildlife Research Center.

Clark, G. M., L. N. Locke, and F. C. Schmid. 1960. Contact dermatitis incurred from cottontail stomach contents. J. Wildl. Manage. 24:94.

Effect apparently resulted from rabbits on Patuxent Wildlife Research Center consuming poison ivy (*Toxicodendron radicans*).

Clark, G. M., and L. N. Locke. 1964. Multiple parasitism in fledgling birds: case reports. Avian Dis. 8:315–316.

Two cases from Patuxent Wildlife Research Center.

Clifford, C. M., D. E. Sonenshine, E. L. Atwood, C. S. Robbins, and L. E. Hughes. 1969. Tests on ticks from wild birds collected in the eastern United States for rickettsiae and viruses. Am. J. Tropical Med. Hyg. 18:1057–1061.

Patuxent Wildlife Research Center was one collecting station.

Coon, R. A., J. Nichols, and H. F. Percival. 1981. Importance of structural stability to success of Mourning Dove nests. Auk 98:389–391.

Nesting study conducted at Patuxent Wildlife Research Center.

Dale, F. H. 1956. The farmer and wildlife management. Soil Conserv. 28:186–189.

A preliminary report on the farm wildlife program at Patuxent Wildlife Research Center.

Dein, F. J., J. W. Carpenter, G. G. Clark, R. J. Montali, C. L. Crabbs, T. F. Tsai, and D. E. Docherty. 1986. Mortality of captive Whooping Cranes caused by eastern encephalitis virus. J. Am. Vet. Med. Assoc. 189:1006–1010.

Presence of the virus and one of its vectors, the mosquito *Culiseta melanura,* reported at Patuxent Wildlife Research Center.

DeWitt, J. B., and J. V. Derby, Jr. 1955. Changes in nutritive value of browse plants following forest fires. J. Wildl. Manage. 19:65–70.

Studies conducted on the nutritive content of plants collected following a forest fire on an area of the Beltsville Agricultural Research Center adjacent to the Patuxent Wildlife Research Center.

Dillon, J. F. 1955. Studies of the fish population of Snowden Pond, Patuxent Research Refuge, Laurel, Maryland. M.S. thesis, University of Maryland. x + 58 pp.

Studies conducted 6 years after completion of the pond.

Drummond, R. O. 1957. Ectoparasitic Acarina from small mammals of the Patuxent Refuge, Bowie, Maryland. J. Parasitol. 43:50.

Mites and ticks occurring on nine species of mammals from the Patuxent Wildlife Research Center are reported.

Drummond, R. O. 1957. Observations on fluctuations of acarine populations from nests of *Peromyscus leucopus.* Ecol. Monogr. 27:137–152.

Mites and ticks parasitizing *P. leucopus* attracted to artificial nest boxes studied.

Fankhauser, D. P. 1964. Renesting and second nesting of individually marked Red-winged Blackbirds. Bird-Banding 35:119–121.

Nesting study conducted on the Patuxent Wildlife Research Center.

Fankhauser, D. P., and R. T. Mitchell. 1964. Changes in land use and breeding Red-winged Blackbird populations at Patuxent Wildlife Research Center. Atl. Nat. 19:99–100.

Population changes related to wetland creation and farm wildlife activities.

Firth, W. R., project manager. 1980. Patuxent Wildlife Research Center Master Plan. Sasaki Associates, Watertown, Massachusetts. 37 pp., maps, appendices.

Land use categories discussed.

Fleming, W. J., C. E. Grue, C. A. Schuler, and C. M. Bunck. 1987. Effects of oral doses of fluoride on nestling European Starlings. Arch. Environ. Contam. Toxicol. 16:483–489.

Experiments conducted on wild starlings attracted to nest boxes.

Geissler, P. H., D. D. Dolton, R. A. Coon, H. F. Percival, R. Field, D. W. Hayne, L. D. Soileau, R. R. George, J. H. Dunks, and S. D. Bunnell. 1982. Mourning Dove nesting: seasonal patterns and effects of September hunting. U.S. Fish Wildl. Serv., Resour. Publ. 168.

A portion of the field research in this wide ranging study was conducted on Patuxent Wildlife Research Center.

Gish, C. D., and R. E. Christensen. 1973. Cadmium, nickel, lead, and zinc in earthworms from roadside soil. Environ. Sci. Technol. 7:1060–1062.

Control samples collected at Patuxent.

Grue, C. E., and C. C. Hunter. 1984. Brain cholinesterase activity in fledgling starlings: implications for monitoring exposure of songbirds to ChE inhibitors. Bull. Environ. Contam. Toxicol. 32:282–289.

Free-living nestlings taken from nest boxes.

Grue, C. E., G. V. N. Powell, and N. Gladson. 1981. Brain cholinesterase (ChE) activity in nestling starlings: implications for monitoring exposure of nestling songbirds to ChE inhibitors. Bull. Environ. Contam. Toxicol. 26:544–547.

Relations between age and enzyme activity determined.

Grue, C. E., G. V. N. Powell, and C. H. Gorsuch. 1982. Assessing effects of organophosphates on songbirds: comparison of a captive and free-living population. J. Wildl. Manage. 46:766–767.

Enzyme activities in wild and captive animals compared.

Grue, C. E., G. V. N. Powell, and M. J. McChesney. 1982. Care of nestlings by wild female starlings exposed to an organophosphate pesticide. J. Appl. Ecol. 19:327–335.

Observations made on wild European Starlings *(Sturnus vulgaris)* attracted to nest boxes.

Grue, C. E., and B. K. Shipley. 1984. Sensitivity of nestling and adult starlings to dicrotophos, an organophosphate pesticide. Environ. Res. 35:454–465.

Conducted on Patuxent Wildlife Research with free-living European Starlings attracted to nest boxes.

Hall, L. C., and F. B. MilGilvrey. 1971. Nesting by a yearling Canada Goose. J. Wildl. Manage. 35:835–836.

Single record of nesting by a yearling, and frequency of nesting by 2- and 3-year olds reported.

Hall, R. J., and B. M. Mulhern. 1984. Are anuran amphibians heavy metal accumulators? Pages 123–133 *in* R. A. Seigel, L. E. Hunt, J. L. Knight, L. Malaret, and N. L. Zuschlag, eds. Vertebrate ecology and systematics. Univ. Kansas Publ. Mus. Nat. Hist. Spec. Publ. 10. 278 pp.

Metal levels in fish and amphibians from the Patuxent Wildlife Research Center reported.

Hallgren-Scaffidi, L. 1986. Habitat, home range, and population study of the eastern box turtle (*Terrapene carolina*). M.S. thesis, University of Maryland. iv + 82 pp.

A follow-up on studies by L. F. Stickel (1950, 1978).

Henny, C. J., R. C. Schmid, E. M. Martin, and L. L. Hood. 1973. Territorial behavior, pesticides, and the population ecology of Red-shouldered Hawks in central Maryland, 1943–1971. Ecology 54:545–554.

Study conducted in Patuxent Wildlife Research Center floodplain and adjoining areas.

Hensler, G. L. 1985. Estimation and comparison of functions of daily nest survival probabilities using the Mayfield method. Pages 289–301 *in* B. J. T. Morgan and P. M. North, eds. Statistics in ornithology. Springer-Verlag, New York. 418 p.

Uses examples based on Patuxent Mourning Dove (*Zenaida macroura*) study to illustrate methodological comparisons.

Hensler, G. L., J. D. Nichols, R. A. Coon, H. F. Percival, and J. E. Hines. 1980. Estimating nesting success: a model, estimators, and a field example. Bull. Ecol. Soc. Am. 61:109.

Data on Patuxent Mourning Dove studies utilized.

Herman, C. M. 1954. *Haemoproteus* infections in waterfowl. Proc. Helminthol. Soc. Wash. 21:37–42.

Parasite found to occur naturally in Wood Ducks (*Aix sponsa*) at Patuxent Wildlife Research Center.

Herman, C. M. 1962. The role of birds in the epizootiology of eastern encephalitis. Auk 79:99–103.

Five bird species at Patuxent reported to carry antibodies.

Herman, C. M., P. M. Bauman, and R. T. Habermann. 1957. The prevalence of *Eurytrema procyonis* Denton (Trematoda Dicrocoeliidae) in some mammals from Maryland. J. Parasitol. 43:113–114.

Most mammals collected from Patuxent Wildlife Research Center.

Herman, C. M., L. Kilham, and O. Warbach. 1956. Incidence of Shope's rabbit fibroma in cottontails at the Patuxent Research Refuge. J. Wildl. Manage. 20:85–89.

Epizootic reported.

Herman, C. M., J. O. Knisley, Jr., and G. D. Knipling. 1971. Blood parasites of Wood Ducks. J. Wildl. Manage. 35:119–122.

Seven ducks from Patuxent Wildlife Research Center examined.

Herman, C. M., and D. L. Price. 1955. The occurrence of *Hepatozoon* in the gray squirrel *(Sciurus carolinensis)*. J. Protozool. 2:48–51.

Parasites found in squirrels from the Patuxent Wildlife Research Center and surrounding areas.

Herman, C. M., and D. L. Price. 1965. Epizootiologic studies on filaroids of the raccoon. J. Wildl. Manage. 29:694–699.

Raccoons trapped at Patuxent Wildlife Research Center.

Hill, E. F., and H. C. Murray. 1987. Seasonal variation in diagnostic enzymes and biochemical constituents of captive Northern Bobwhites and passerines. Comp. Biochem. Physiol. 87B:933–940.

Normal enzyme levels reported in birds captured at Patuxent Wildlife Research Center.

Hitchcock, J. C. 1967. The age composition of a natural population of *Anopheles quadrimaculatus* Say, at the Patuxent Wildlife Research Center, Maryland. Ph.D. thesis, Johns Hopkins University.

Not seen by compiler; copy ordered for the Patuxent Wildlife Research Center library.

Hoffman, C. H., H. K. Townes, R. I. Sailer, and H. H. Swift. 1946. Field studies on the effect of DDT on aquatic insects. U.S. Bureau of Entomology and Plant Quarantine E-702. 20 pp.

A preliminary report on the studies later published as Hoffman et al. (1949).

Hoffman C. H., H. K. Townes, H. H. Swift, and R. I. Sailer. 1949. Field studies on the effects of airplane applications of DDT on forest invertebates. Ecol. Monogr. 19:1–46.

Reports effects on insect fauna of DDT applied to experimental areas in Patuxent River bottomlands.

Hotchkiss, N. 1940. Flora of the Patuxent Research Refuge, Maryland. U.S. Dep. Int., Bur. Biol. Surv., Wild. Leafl. BS-154.

A preliminary report later expanded in Hotchkiss and Stewart (1947).

Hotchkiss, N., and R. E. Stewart. 1947. Vegetation of the Patuxent Research Refuge, Maryland. Am. Midl. Nat. 38:1–75.

Description of plant communities; taxonomic list of plants.

Jacobs, L., A. M. Stanley, and C. M. Herman. 1962. Prevalence of *Toxoplasma* antibodies in rabbits, squirrels, and raccoons collected in and near the Patuxent Wildlife Research Center. J. Parasitol. 48:550.

Test results reported; some animals positive for antibodies.

Jett, D. A. 1983. Effects of the insecticide, orthene, on unconfined populations of the meadow vole (*Microtus pennsylvanicus*). I. Capture/recapture procedures; II. Residues and cholinesterase inhibition. M.S. thesis, University of Maryland.

Conducted on Patuxent Wildlife Research Center.

Jett, D. A. 1986. Cholinesterase inhibition in meadow voles *(Microtus pennsylvanicus)* following field applications of orthene. Environ. Toxicol. Chem. 5:255–259.

Based on 1983 thesis.

Jett, D. A., J. D. Nichols, and J. E. Hines. 1986. Effect of orthene on an unconfined population of the meadow vole *(Microtus pennsylvanicus)*. Can. J. Zool. 64:243-250.

Experiments conducted on natural populations in an open field habitat at Patuxent.

Jones, L. 1976. Field data on *Heterodon p. platyrhinos* in Prince Georges County, Maryland. Bull. Md. Herpetol. Soc. 12:29–32.

Study conducted on Patuxent Wildlife Research Center. Location erroneously reported to discourage collectors.

Jones, L. 1976. A large brood for a Maryland *Storeria dekayi dekayi.* Bull. Md. Herpetol. Soc. 12:102.

Snake collected on Patuxent Wildlife Research Center.

Kilham, L., and C. M. Herman. 1954. Isolation of an agent causing bilirubinemia and jaundice in raccoons. Proc. Soc. Exp. Biol. Med. 85:272–275.

Raccoons used were presumably from Patuxent Wildlife Research Center.

Kilham, L., R. T. Habermann, and C. M. Herman. 1956. Jaundice and bilirubinemia as manifestations of canine distemper in raccoons and ferrets. Am. J. Vet. Res. 17:144–148.

Raccoons were presumably from Patuxent.

Klimkiewicz, M. K., and P. D. Jung. 1977. A new banding technique for nesting adult Purple Martins. N. Am. Bird Bander 2:3–6.

Gives banding results for Patuxent colonies of Purple Martins (*Progne subis*).

Knisley, J. O., Jr., and C. M. Herman. 1967. *Haemoproteus,* a blood parasite, in domestic pigeons and Mourning Doves in Maryland. Chesapeake Sci. 8:200–205.

Doves collected on the Patuxent Wildlife Research Center.

Kocan, R. M. 1968. Probable origin of ciliates seen in oral swabbings of doves and pigeons. J. Parasitol. 54:1033.

Doves from Patuxent Wildlife Research Center.

Kocan, R. M., and H. F. Hasenclever. 1972. Normal yeast flora of the upper digestive tract of some wild columbids. J. Wildl. Dis. 8:365–368.

Flora of Mourning Doves trapped at Patuxent reported.

Kocan, R. M., and L. N. Locke. 1974. *Salmonella typhimurium* from a Maryland Mourning Dove. Condor 76:349.

Dove from Patuxent Wildlife Research Center.

LaBuy, J. 1968. Biological survey of the upper and middle Patuxent River and some of its tributaries, from the Maryland Route 97 bridge near Roxbury Mills to the Maryland Route 4 bridge near Wayson's Corner, Maryland. Chesapeake Bay drainage basin. CB-SRBP Working Document No. 29. Federal Water Pollution Control Administration, Middle Atlantic Region. 49 pp.

DuVall Bridge was one of many sampling sites along the river. Low richness of benthic macroinvertebrates at DuVall Bridge was attributed to low dissolved oxygen and unstable bottom material.

Larcher, S. F., and D. H. Wise. 1985. Experimental studies of the interactions between a web-invading spider and two host species. J. Arachnol. 13:43–59.

Experiments conducted on Patuxent Wildlife Research Center South Tract.

LaRoche, G. E. 1958. Phytosociological study of the alluvial floodplain forest community in the Patuxent Wildlife Refuge. M.S. thesis, Catholic University of America. iv + 42 pp.

A quantitative vegetation study conducted in plots in various parts of the Patuxent River floodplain.

Levine, M. 1948. A limnological investigation of four acid water impoundments with special reference to their zooplankton. M.S. thesis, University of Maryland.

(on order – not yet seen by compiler)

Linehan, J. T., and L. M. Llewellyn. 1957. An improved box trap for small game and fur animals. U.S. Fish Wildl. Serv., Wildl. Leafl. 386. 4 pp.

Field tests of new design conducted at Patuxent Wildlife Research Center.

Llewellyn, L. M. 1950. Reduction of mortality in live-trapping mice. J. Wildl. Manage. 14:84–85.

New trap design tested using Patuxent population of *Peromyscus leucopus*.

Llewellyn, L. M. 1953. Growth rate of the raccoon fetus. J. Wildl. Manage. 17:320–321.

Observations made on a raccoon trapped on the Patuxent Wildlife Research Center.

Llewellyn, L. M., and F. H. Dale. 1964. Notes on the ecology of the opossum in Maryland. J. Mammal. 45:113–122.

Based on an 8-year capture–recapture study conducted on the Patuxent Wildlife Research Center.

Llewellyn, L. M., and R. K. Enders. 1954. Transuterine migration in the raccoon. J. Mammal. 35:439.

Cases reported in Patuxent animals.

Llewellyn, L. M., and R. K. Enders. 1954. Ovulation in the raccoon. J. Mammal. 35:440.

Laparotomies performed on wild-caught females to determine the stimulus for ovulation.

Llewellyn, L. M., and C. G. Webster. 1960. Raccoon predation on waterfowl. Trans. N. Amer. Wildl. Nat. Res. Conf. 25:180–185.

Results of some of Uhler's studies on the Patuxent wetlands reported.

Locke, L. N., and E. E. Brown. 1965. Occurrence of the fluke, *Prycyotrema marsuodiformis* Harkema and Miller, 1959, in a Maryland raccoon. J. Parasitol. 51:355.

Raccoon trapped on the Patuxent Wildlife Research Center.

Locke, L. N., and C. M. Herman. 1961. Trichomonas infection in Mourning Doves, *Zenaidura macroura,* in Maryland. Chesapeake Sci. 2:45–48.

Half of approximately 500 doves trapped were from Patuxent Wildlife Research Center.

Locke, L. N., C. M. Herman, and E. S. King, Jr. 1960. Case report – pox in Mourning Dove in Maryland. Avian Dis. 4:199–202.

Wild doves sampled from the adjacent Beltsville Agricultural Research Center.

Locke, L. N., and J. O. Knisley, Jr. 1965. Sarcocystis in a Yellowthroat and a Rusty Blackbird. Bull. Wildl. Dis. Assoc. 1:36.

Yellowthroat obtained from Patuxent Wildlife Research Center.

Locke, L. N., and F. S. Locke. 1969. A winter record of the Wilson's Warbler at the Patuxent Wildlife Research Center, Laurel, Maryland. Md. Birdlife 25:16.

Title self-explanatory.

Manning, J. H. 1951. A study of the populations and growth phenomena of centrarchid fishes in a soft-water impoundment of Maryland. M.S. thesis, University of Maryland. vi + 85 pp.

Study done in Snowden Pond.

Mansueti, R. 1950. An ecological study of the fishes of the Patuxent River watershed. M.S. thesis, University of Maryland.

(on order–not yet seen by compiler)

Martyniuk, J., and D. H. Wise. 1985. Stage-biased overwintering survival of the filmy dome spider (Araneae, Linyphiidae). J. Arachnol. 13:321–329.

One of three study sites was the Patuxent Wildlife Research Center South Tract.

McGilvrey, F. B. 1966. Second nesting of the Wood Duck. Auk 83:303.

Recorded in nest boxes at Patuxent.

McGilvrey, F. B. 1966. Nesting of Hooded Mergansers on the Patuxent Wildlife Research Center, Laurel, Maryland. Auk 83:477–479.

Nesting reported in Wood Duck boxes on impoundments.

McGilvrey, F. B. 1968. Conditioning Black Ducks to nest in elevated cylinders. Trans. Northeast. Sect. Wildl. Soc. 28:213–220.

Experiments conducted on impoundments.

McGilvrey, F. B. 1969. Survival in Wood Duck broods. J. Wildl. Manage. 33:73–76.

Results of 3-year field study on impoundments.

McGilvrey, F. B. 1975. Methods to increase waterfowl production and use of low quality wetlands. Unpublished manuscript, Patuxent Wildlife Research Center. 79 pp.

The best and almost only source of information on impoundment studies begun in the 1950's.

McGilvrey, F. B., and F. M. Uhler. 1971. A starling-deterrent Wood Duck nest box. J. Wildl. Manage. 35:793–797.

Studies of nest box design conducted on Patuxent Wildlife Research Center impoundments.

McKnight, K. H. *Lactarius umbrinopapillatus* sp. nov. Pages 486–487 *in* L. R. Hesler and A. H. Smith, eds. 1979. North American species of *Lactarius.* Univ. Michigan Press, Ann Arbor. ix + 841 pp.

New species, discovered on a portion of the Patuxent Wildlife Research Center South Tract formerly part of the Beltsville Agricultural Research Center, is apparently first described in the Hesler and Smith handbook.

Meanley, B. 1941. The pileated of Patuxent Swamp. Md. Conserv. 18(4):9–10.

Observations of Pileated Woodpeckers (*Dryocopus pileatus*) may have been made on the Patuxent Wildlife Research Center.

Meanley, B. 1942. Utilization of sassafras by birds. Md. Conserv. 19:20.

Based on field observations on the Patuxent Wildlfe Research Center.

Meanley, B. 1964. Origin, structure, molt, and dispersal of a late summer Red-winged Blackbird population. Bird Banding 35:32–38.

Based in part on banding studies at Patuxent Wildlife Research Center.

Meanley, B. 1968. Yellow-headed Blackbird at the Patuxent Wildlife Research Center. Atl. Nat. 23:36.

Caught in blackbird decoy trap.

Meanley, B. 1969. Natural history of the King Rail. U.S. Fish Wildl. Serv., N. Am. Fauna 67. 108 pp.

Research mostly done elsewhere, but some banding and movement studies conducted at Patuxent Wildlife Research Center.

Meanley, B. 1974. February nesting of Mourning Doves near Laurel, Maryland. Md. Birdlife 29:331.

Observations made on Patuxent Wildlife Research Center.

Meanley, B. 1975. Two more Yellow-headed Blackbirds banded near Laurel, Maryland. Md. Birdlife 31:138.

Additional records at Patuxent Wildlife Research Center.

Meanley, B. 1980. Breeding status of the Sora in Maryland. Md. Birdlife 36:98.

Sora *(Porzana carolina)* found breeding in one of the Patuxent impoundments.

Meanley, B., and G. M. Bond. 1970. Molts and plumages of the Red-winged Blackbird with particular reference to fall migration. Bird Banding 41:22–27.

Partly based on studies of trapped birds at Patuxent Wildlife Research Center.

Meanley, B., and M. C. Perry. 1974. Red-cockaded Woodpecker near Bowie, Maryland. Atl. Nat. 29:133.

Endangered species sighted at Patuxent Wildlife Research Center.

Meanley, B., J. S. Webb, D. P. Fankhauser, and R. T. Mitchell. 1962. The blackbird banding program of the Patuxent Wildlife Research Center. EBBA (Eastern Bird Banding Assoc.) News 25:117–121.

Describes methods and general results.

Mitchell, R. T. 1946. Effects of DDT spray on eggs and nestlings of birds. J. Wildl. Manage. 10:192–194.

Observations following a 5-pound per acre spray on an area of the Patuxent River bottomland.

Mitchell, R. T., H. P. Blagbrough, and R. C. Van-Etten. 1953. The effects of DDT upon the survival and growth of nestling songbirds. J. Wildl. Manage. 17:45–54.

Mortality of birds attracted to nest boxes observed.

Morgan, R. P., II, S. T. Sulkin, and C. J. Henny. 1977. Serum proteins of Canada Goose (*Branta canadensis*) subspecies. Condor 79:275–278.

Naturalized flock at Patuxent sampled; their identity questioned.

Morley, L. B. [ca. 1942.] A report on the history and development of the Patuxent Research Refuge. Patuxent Wildlife Research Center. 86 pp.

Contains descriptions and photographs of the area before development as a research facility.

Morris, J. A., and A. D. Alexander. 1951. Lymphocytic choriomeningitis virus from gray mice trapped in a rural area. Cornell Veterinarian 41:122–123.

Disease found in house mice (*Mus musculus*) trapped at the Patuxent Wildlife Research Center.

Mossett, R. C. 1964. The mat-forming algae of a waste stabilization pond Island Marsh Unit No. 1, Patuxent Wildlife Research Center, Prince Georges County, Maryland. M.S. thesis, Catholic University of America. iv + 43 p.

Study conducted when marsh was approximately 10 years old.

Nelson, A. 1959. The Patuxent Research Refuge. Bull. Med. Res. 13:16–29.

General description of facilities and programs.

Nestler, R. B., J. V. Derby, and J. B. DeWitt. 1949. Vitamin A and carotene content of some wildlife foods. J. Wildl. Manage. 13:271–274.

Invertebrates and plants collected from Patuxent were analyzed.

Nibley, C., Jr. 1957. The ixodid ticks of birds on the Patuxent Research Refuge. M.S. thesis, University of Maryland. xiii + 138 pp.

Three species of ticks recorded from 32 species of birds.

Nibley, C., Jr. 1962. Tick collections from ground-feeding birds at the Patuxent Research Refuge, Laurel, Maryland. Wildl. Dis. 22. 10 pp.

Three species of ticks collected from 34 species of birds.

Nichols, J. D., and J. E. Hines. 1982. Of mice and Mallards: tests of the compensatory mortality hypothesis in vertebrate populations. Bull. Ecol. Soc. Am. 63:85.

Compensatory mortality hypothesis tested with Patuxent *Peromyscus* populations.

Nichols, J. D., and K. H. Pollock. 1983. Estimation methodology in contemporary small mammal capture–recapture studies. J. Mammal. 63:252–260.

Largely theoretical; uses data from Patuxent studies on *Peromyscus.*

Nichols, J. D., H. F. Percival, R. A. Coon, M. J. Conroy, G. L. Hensler, and J. E. Hines. 1984. Observer visitation frequency and success of Mourning Dove nests: a field experiment. Auk 101:398–402.

Studies conducted on Patuxent Wildlife Research Center and nearby areas; other aspects of study reported in Coon et al. (1981).

Nichols, J. D., K. H. Pollock, and J. E. Hines. 1984. The use of a robust capture–recapture design in small mammal population studies: a field example with *Microtus pennsylavnicus*. Acta Ther. 29. 30:357–365.

Fieldwork conducted in old field habitat at Patuxent Wildlife Research Center.

Oresman, S., J. Tiffany, and C. S. Robbins. 1948. Breeding bird survey: damp deciduous scrub with numerous standing dead trees. Audubon Field Notes 2:226–227.

Conducted on burned portion of Beltsville Agricultural Research Center.

Ostdiek, J. L. 1961. Fluctuations in populations of Collembola within leaf litter in the Patuxent Research Refuge, Maryland. Catholic Univ. Am. Biol. Stud. 62. 51 pp.

Four stations established in different community types.

Owens, H. B. 1963. A study of the effect of conservation farming on populations of beneficial and destructive insects. Ph.D. thesis, University of Maryland. vi + 176 pp.

Studies conducted 1947–1952 in conjunction with farm wildlife experiments.

Patuxent Wildlife Research Center. 1962. Indian backgrounds of the Patuxent Wildlife Research Center. U.S. Fish Wildl. Serv. Circ. 138. 8 pp.

Popular account of archaeological history of the area.

Perry, M. C., and B. Meanley. 1976. Early egg laying for the Carolina Wren. Md. Birdlife 32:15.

Observations made at Patuxent Wildlife Research Center.

Pollock, K. H., J. E. Hines, and J. D. Nichols. 1985. Goodness-of-fit tests for open capture–recapture models. Biometrics 41:399–410.

Example cited relies on field studies on *Microtus* conducted on Patuxent Wildlife Research Center (see Nichols et al. 1984).

Powell, G. V. N., and D. C. Gray. 1980. Dosing free-living nestling starlings with an organophosphate pesticide, famphur. J. Wildl. Manage. 44:918–921.

Study done on European Starlings attracted to nest boxes.

Price, D. L. 1954. Filarial parasites in mammals. J. Parasitol. 40 (5, Sect. 2):16.

Abstract. Summary of studies done at Patuxent.

Price, D. L. 1955. Filarial parasites in mammals. J. Parasitol. 40(5, Sect. 2):16

Abstract. Summary of studies done at Patuxent.

Price, D. L. 1955. *Dipetalonema procyonis* n. sp. from *Procyon lotor lotor.* Proc. Helminthol. Soc. Wash. 22:38–41.

New species of parasitic worm described from a Patuxent raccoon.

Price, D. L. 1955. Epizootiological studies on some filarioid parasites of the family Dipetalonematidae (Nematoda: Filaroidea) found in certain small mammals. Ph.D. thesis, University of Maryland. xii + 171 pp.

Parasites studied in mammals, including squirrels, raccoons, skunks, and opossums, at Patuxent. Arthropod vectors, including mosquitos, ticks, fleas and biting flies also examined and used in studies designed to elucidate life histories.

Price, D. L. 1957. *Dirofilaria uniformis,* n. sp., (Nematoda: Filarioidea) from *Sylvilagus floridanus mallurus* (Thomas) in Maryland. Proc. Helminthol. Soc. Wash. 24:15–19.

Some infected rabbits collected from Patuxent Wildlife Research Center.

Price, D. L. 1962. Description of *Dipetalonema interstitium* n. sp. from the grey squirrel and *Dipetalonema llewellyni* n. sp. from the raccoon. Proc. Helminthol. Soc. Wash. 29:77–82.

(not seen by compiler)

Robbins, C. S. 1949. Weather and bird migration. Wood Thrush 4:130–144.

Spring arrival dates at Patuxent Wildlife Research Center for some migratory birds given.

Robbins, C. S. 1949. Summary of Maryland nest records, 1949. Md. Birdlife 5:41–48.

Includes many records for Patuxent.

Robbins, C. S. 1953. The Evening Grosbeak in Maryland. Md. Birdlife 9:24–27.

Records irruption into Patuxent Wildlife Research Center and surrounding areas.

Robbins, C. S. 1970. Comparison of two methods for monitoring changes in winter populations of songbirds. Pages 38–39 *in* Bird census work and environmental monitoring. Ecol. Res. Committee, Lund, Sweden, Bull. 9. 52 pp.

Sampling routes include Patuxent Wildlife Research Center.

Robbins, C. S. 1970. Winter bird survey technique tested in Maryland. Md. Birdlife 26:11–20.

Preliminary testing of survey technique done at Patuxent Wildlife Research Center.

Robbins, C. S. 1979. Effect of forest fragmentation on bird populations. Pages 198–212 *in* Workshop proceedings: management of north central and northeastern forests for nongame birds. U.S. Dep. Agric. For. Serv. Gen. Tech. Rep. NC-51. 268 pp.

Studies of Patuxent Wildlife Research Center bird populations used as one of several cases illustrating effect of fragmentation of forests on bird populations.

Robbins, C. S. 1979. Effect of forest fragmentation on bird populations. Passenger Pigeon 41:101–119.

A reprint of the paper of the same title published by the U.S. Forest Service.

Robbins, C. S. 1980. Effect of forest fragmentation on breeding bird populations in the piedmont of the mid-Atlantic region. Pages 31–36 *in* Proceedings of the mid-Atlantic natural history symposium; bird populations—a litmus test of the environment. Atl. Nat. 33. 48 pp.

Population trends for birds at Patuxent Wildlife Research Center given.

Robbins, C. S. 1981. Effect of time of day on bird activity. Stud. Avian Biol. 6:275–286.

Part of the field work done at Patuxent Wildlife Research Center.

Robbins, C. S., and D. Bystrak. 1974. The winter bird survey of central Maryland, USA. Acta Ornithol. 14:254–271.

Study area includes Patuxent Wildlife Research Center.

Robbins, C. S., P. F. Springer, and C. G. Webster. 1951. Effects of 5-year DDT application on breeding bird population. J. Wildl. Manage. 15:213–216.

Cumulative effects of repeated annual spraying of a 117-acre tract of bottomland forest documented.

Robbins, C. S., and R. E. Stewart. 1949. Effects of DDT on bird population of scrub forest. J. Wildl. Manage. 13:11–16.

Census on a burned-over portion of the adjacent Beltsville Agricultural Research Center.

Robbins, C. S., R. E. Stewart, and M. Karplus. 1947. Breeding bird census: dry deciduous scrub. Audubon Field Notes 1:200–201.

Conducted on burned-over portion of the adjacent Beltsville Agricultural Research Center.

Robbins, C. S., and W. T. van Velzen. 1970. Progress report on the North American Breeding Bird Survey. Pages 22–30 *in* Bird census work and environmental monitoring. Bull. 9, Ecol. Res. Comm., Lund, Sweden.

Methods development occurred at Patuxent; map shown.

Ruggiero, M. A. 1977. The distribution of benthic macroinvertebrates in the non-tidal portion of the Patuxent River, Maryland. M.S. thesis, George Washington University. vii + 51 pp.

Two sampling stations on Patuxent Wildlife Research Center portion of the river.

Ruggiero, M. A. 1982. The ecological energetics of a population of eastern tent caterpillars, *Malacosoma americanum* (Lepidoptera:Lasiocampidae), in Maryland. Ph.D. thesis, George Washington University. ix + 101 pp.

Study conducted on Patuxent Wildlife Research Center.

Ruggiero, M. A., and H. C. Merchant. 1986. Estimated energy budget for a population of eastern tent caterpillars (Lepidoptera: Lasiocampidae) in Maryland. Environ. Entomol. 15:795–799.

Based on 1982 dissertation.

Rummel, L. H. 1979. Canada Geese of the Patuxent Wildlife Research Center, family relationships, behavior and productivity. M.S. thesis, University of Maryland. ix + 179 pp.

Naturalized population studied in mid-1970's.

Schauff, M. E. 1983. A new genus of Mymaridae (Hymenoptera: Chalcidoidea) from the New World. Proc. Entomol. Soc. Wash. 85:543–551.

Two species of the genus *Omyomymar,* one of them a new species, are recorded from Patuxent Wildlife Research Center, which is the type locality for the new species.

Schauff, M. E., and E. E. Grissell. 1982. Nomenclatural notes on *Polynema* (Hymenoptera: Mymaridae), with description of a new species. Proc. Entomol. Soc. Wash. 84: 529–534.

Specimens of *Polynema ema,* a new species, recorded from Patuxent Wildlife Research Center.

Schmid, F. C. 1958. Cedar Waxwings and Fox Sparrow feed upon multiflora rose. Wilson Bull. 70:194–195.

Observations made on "Conservation Farm."

Schmid, F. C. 1960. Banding record of Harris Sparrow in Maryland. Md. Birdlife 16:11.

Trapped at Patuxent Wildlife Research Center.

Schmid, F. C. 1963. Record longevity of a wild Red-shouldered Hawk. Bird Banding 34:160.

Band recovered at Patuxent.

Scott, R. F. 1965. Problems of multiflora rose spread and control. Trans. N. Am. Wildl. Nat. Resour. Conf. 30:360–378.

Reports problems caused by plantings at Patuxent Wildlife Research Center.

Shearer, C. A. 1972. Fungi of the Chesapeake Bay and its tributaries. III. The distribution of wood-inhabiting ascomycetes and fungi imperfecti of the Patuxent River. Am. J. Bot. 59:961–969.

Patuxent Wildlife Research Center was a collection site for a study relating the distribution of fungal species to salinity.

Shearer, C. A. 1973. Fungi of the Chesapeake Bay and its tributaries. II. The genus *Conioscypha.* Mycologia 65:128–136.

Specimens recorded from Patuxent Wildlife Research Center.

Shearer, C. A., and J. L. Crane. 1971. Fungi of the Chesapeake Bay and its tributaries. I. Patuxent River. Mycologia 63:237–260.

Noteworthy specimens, including a new species, recorded from Patuxent Wildlife Research Center.

Shelangouski, R. 1965. A study in revegetation. M.S. thesis, Catholic University of America. iii + 20 pp.

Conducted on newly-cleared powerline cut.

Stamm, D. D., D. E. Davis, and C. S. Robbins. 1960. A method of studying wild bird populations by mist-netting and banding. Bird-Banding 31:115–130.

Census technique devised and tested at Patuxent Wildlife Research Center.

Stewart, R. E. 1942. Winter birds of the Patuxent Research Refuge, Maryland. Md. Conserv. 19:10–11,20–29.

Species accounts of birds observed in winter.

Stewart, R. E. 1948. The ecological distribution of birds. Md. Nat. 18:23–29.

Patuxent Wildlife Research Center used as example of effects of physiography on bird distribution.

Stewart, R. E. 1949. Ecology of a nesting Red-shouldered Hawk population. Wilson Bull. 61:26–35.

Studied in various portions of the Patuxent and Potomac valleys, including sites on the Patuxent Wildlife Research Center.

Stewart, R. E. 1952. Census of Woodcock breeding populations in vicinity of Patuxent Refuge, Md. in 1951. Page 29 *in* Investigations of woodcock, snipe, and rails in 1951. U.S. Fish Wildl. Serv., Spec. Sci. Rep.—Wildl. 14.

Study conducted in 16.5 square mile rectangle that included Patuxent Wildlife Research Center.

Stewart, R. E. 1953. A life history study of the Yellow-throat. Wilson Bull. 65:99–115.

Primary study area was in Michigan, but supplemental information obtained at Patuxent Wildlife Research Center was included.

Stewart, R. E., J. B. Cope, and C. S. Robbins. 1945. Live trapping of hawks and owls. J. Wildl. Manage. 9:99–104.

Methods of trapping raptors tested; 80 hawks and 37 owls captured.

Stewart, R. E., J. B. Cope, C. S. Robbins, and J. W. Brainerd. 1946. Effects of DDT on birds at the Patuxent Research Refuge. J. Wildl. Manage. 10:195–201.

Before and after counts made on birds in sprayed and unsprayed portions of the Patuxent forest.

Stewart, R. E., J. B. Cope, C. S. Robbins, and J. W. Brainerd. 1952. Seasonal distribution of bird populations at the Patuxent Research Refuge. Am. Midl. Nat. 47:257–363.

A major work on bird populations.

Stewart, R. E., M. Karplus, and C. S. Robbins. 1947. Breeding bird survey: damp deciduous scrub with numerous standing dead trees. Audubon Field Notes 1:200.

Conducted on burned portion of the adjacent Beltsville Agricultural Research Center.

Stewart, R. E., and C. S. Robbins. 1958. Birds of Maryland and the District of Columbia. U.S. Fish Wildl. Serv., N. Am. Fauna 62. 401 pp.

Includes breeding bird densities for Patuxent habitats.

Steyskal, G. C., and H. Robinson. 1970. Dolichopodidae from the Patuxent Wildlife Refuge, Maryland, with the descriptions of 3 new species of *Neurigona* (Diptera). Proc. Entomol. Soc. Wash. 72:448–453.

Seventeen species recorded: Patuxent is the type locality for the three new species described.

Stickel, L. F. 1946. Field studies of a *Peromyscus* population in an area treated with DDT. J. Wildl. Manage. 10:216–218.

Populations estimated before and after spraying on treated and control areas.

Stickel, L. F. 1946. The source of animals moving into a depopulated area. J. Mammal. 27:301–307.

Experiments on *Peromyscus* in bottomland forest.

Stickel, L. F. 1946. Experimental analysis of methods for measuring small mammal populations. J. Wildl. Manage. 10:150–159.

A study of *Peromyscus leucopus* was undertaken in the Patuxent bottomlands to evaluate snap trapping and live trapping as sampling methods for population estimates.

Stickel, L. F. 1948. The trap line as a measure of small mammal populations. J. Wildl. Manage. 12:153–161.

Studies evaluating effectiveness of trap lines for estimating population density conducted with *Peromyscus* populations in the Patuxent bottomland forest.

Stickel, L. F. 1948. Effect of bait in live trapping *Peromyscus*. J. Wildl. Manage. 12:211–212.

Evaluations made on *Peromyscus* in Patuxent bottomland forest.

Stickel, L. F. 1948. Observations on the effect of flood on animals. Ecology 29:505–507.

Effects on mammals, amphibians, reptiles observed in Patuxent bottomlands.

Stickel, L. F. 1949. An experiment on *Peromyscus* homing. Am. Midl. Nat. 41:659–664.

Performed in Patuxent bottomland forest.

Stickel, L. F. 1950. Populations and home range relationships of the box turtle, *Terrapene carolina* (Linnaeus). Ecol. Monogr. 20:351–378.

Results of intensive study conducted on population of a 29.1 acre portion of the Patuxent River floodplain.

Stickel, L. F. 1951. Wood mouse and box turtle populations in an area treated annually with DDT for five years. J. Wildl. Manage. 15:161–164.

Studies failed to detect differences in test and control areas.

Stickel, L. F. 1954. A comparison of certain methods of measuring ranges of small mammals. J. Mammal. 35:1–15.

Studies of *Peromyscus leucopus* at Patuxent Wildlife Research Center used as basis of a comparative methodological study.

Stickel, L. F. 1960. *Peromyscus* ranges at high and low population densities. J. Mammal. 41:433–441.

Studies conducted in Patuxent bottomlands.

Stickel, L. F. 1965. A method for approximating range size of small mammals. J. Mammal. 46:677–679.

Method developed with *Peromyscus* populations studied in the Patuxent bottomlands.

Stickel, L. F. 1978. Changes in a box turtle population during three decades. Copeia 1978:221–225.

Analysis of censuses conducted on same 29.1 acre area in 1945, 1955, 1965, and 1975.

Stickel, L. F. 1979. Population ecology of house mice in unstable habitats. J. Anim. Ecol. 48:871–887.

Studies conducted as part of farm wildlife program in 1949–50; demographic features of population revealed.

Stickel, L. F., W. H. Stickel, and F. C. Schmid. 1980. Ecology of a Maryland population of black rat snakes (*Elaphe o. obsoleta*). Am. Midl. Nat. 103:1–14.

Observations on Patuxent Wildlife Research Center over 35-year period.

Stickel, L. F., and O. Warbach. 1960. Small-mammal populations of a Maryland woodlot, 1949–1954. Ecology 41:269–286.

Part of farm wildlife research program.

Stickel, W. H. 1951. Occurrence and identification of the prairie deer-mouse in central Maryland. Proc. Biol. Soc. Wash. 64:25–32.

Discusses the identity of *Peromyscus maniculatus* population at Patuxent Wildlife Research Center.

Stickel, W. H., editor. 1979. Vegetation and vertebrates of the Patuxent Wildlife Research Center: outline of ecology and annotated lists. Patuxent Wildlife Research Center. ii + 121 pp.

A reprint of Hotchkiss and Stewart (1947) and updated and annotated lists of plants and vertebrates.

Stickel, W. H., and J. B. Cope. 1947. The home range and wanderings of snakes. Copeia 1947:127–136.

Based, in part, on studies conducted at Patuxent.

Surber, E. W., and F. M. Uhler. [ca. 1945.] Effects of a two-pound-per-acre application of DDT (dichloro diphenyl trichloroethane) on fishes in a section of the Patuxent River, Maryland. Patuxent Wildlife Research Center. 8 pp.

An unpublished manuscript included here because of its extraordinary historical value. Some of its findings are cited in Tsai (1968).

Tarshis, I. B. 1968. Use of fabrics in streams to collect black fly larvae. Ann. Entomol. Soc. Am. 61:960–961.

Method tested in Snowden Pond outflow.

Tarshis, I. B. 1973. Studies on the collection, rearing and biology of the blackfly (*Cnephia ornithophilia*). U.S. Fish Wildl. Serv., Spec. Sci. Rep.—Wildl. 165 iv +16 pp.

Field studies conducted at Patuxent Wildlife Research Center.

Tarshis, I. B., and J. N. Stuht. 1970. Two species of Simuliidae (Diptera). *Cnephia ornithophilia* and *Prosimulium vernale,* from Maryland. Ann. Entomol. Soc. Am. 63:587–590.

Two species of blackflies captured at Patuxent represent first records for Maryland.

Thompson, P. H. 1967. Tabanidae of Maryland. Trans. Am. Entomol. Soc. 93:463–519.

Collections made at Patuxent Wildlife Research Center.

Thompson, P. H. 1970. Tabanidae (Diptera) of Patuxent Wildlife Research Center, Laurel, Maryland. Ann. Entomol. Soc. Am. 63:572–576.

Forty species recorded.

Thompson, P. H. 1971. Larval Tabanidae (Diptera) of the Patuxent Wildlife Research Center, Laurel, Maryland. Ann. Entomol. Soc. Am. 64:956–957.

Habits and habitats of larvae of 11 species described.

Thompson, P. H. 1972. Tabanidae of Patuxent Wildlife Research Center, Laurel, Maryland. The second year. (Diptera). Proc. Entomol. Soc. Wash. 74:188–192.

A follow-up on Thompson (1970); three more species recorded.

Tsai, C. 1968. Effects of chlorinated sewage effluents on fishes in upper Patuxent River, Maryland. Chesapeake Sci. 9:83–93.

Includes samples taken at the DuVall bridge and comparison with collections made there in 1945.

Uhler, F. M. 1955. Waterfowl management in unfavorable sites. Proc. N.E. Sect. Wildl. Soc. et al., Atlantic City, N.J., 23–25 March 1955. 5 pp. (mimeo)

Impoundment studies at Patuxent Wildlife Research Center summarized.

Uhler, F. M. 1956. New habitats for waterfowl. Trans. N. Am. Wildl. Conf. 21:454–469.

Impoundment studies and utilization of Patuxent impoundments by waterfowl summarized.

Uhler, F. M., and L. M. Llewellyn. 1952. Fur productivity of submarginal farmland. J. Wildl. Manage. 16:79–86.

A three-year trapping effort on the Patuxent Wildlife Research Center yielded 392 marketable pelts.

van Velzen, W. T. 1967. First observed Brown Creeper nest in Maryland. Md. Birdlife 23:68–69.

Includes some observations of the species from the Patuxent Wildlife Research Center.

Walton, B. C., P. M. Bauman, L. S. Diamond, and C. M. Herman. 1958. The isolation and identification of *Trypanosoma cruzi* from raccoons in Maryland. Am. J. Trop. Med. Hyg. 7:603–610.

Raccoons from Patuxent Wildlife Research Center.

Walton, W. E., S. M. Compton, J. D. Allan, and R. E. Daniels. 1982. The effect of acid stress on survivorship and reproduction of *Daphnia pulex* (Crustacea: Cladocera). Can. J. Zool. 60:573–579.

Colonies grown and tests conducted in water from Snowden Pond.

Warbach, O. 1953. Control of Japanese honeysuckle in wildlife borders. J. Wildl. Manage. 17:301–304.

Control experiments done on Japanese (*Lonicera japonica*) honeysuckle wildlife plantings at Patuxent Wildlife Research Center.

Warbach, O. 1958. Bird populations in relation to change in land use. J. Wildl. Manage. 22:23–28.

Results of farm wildlife experiments.

Webster, C. G., and F. B. McGilvrey. 1965. Providing brood habitat for Wood Ducks. Pages 70–75 *in* Wood Duck management and research: a symposium. Wildlife Management Institute, Washington, DC.

Observation of Wood Duck brood use of experimental plantings in the Patuxent impoundments.

Wetmore, P. W. 1941. Blood parasites of birds of the District of Columbia and Patuxent Research Refuge vicinity. J. Parasitol. 27:379–393.

Two hundred sixty-eight infections documented; not identified as to specific location.

Winslow, D. J., D. L. Price, R. C. Neafie, and C. M. Herman. 1966. Trichinosis in Maryland raccoons. Bull. Wildl. Dis. Assoc. 2:81–82.

Raccoons were captured in the vicinity of Patuxent Wildlife Research Center, or from the adjacent Beltsville Agricultural Research Center.

Wirth, W. W., and W. L. Grogan, Jr. 1979. Natural history of Plummers Island, Maryland. XXIV. Biting midges (Diptera:Ceratopogonidae) 2. The species of the tribes Heterinyiini and Sphaeromiini. Proc. Biol. Soc. Wash. 91:847–903.

Some field collections made at Patuxent Wildlife Research Center.

Wirth, W. W., N. C. Ratanaworabhan, and D. H. Messersmith. 1977. Natural history of Plummers Island, Maryland. XXII. Biting midges (Diptera: Ceratopogonidae). I. Introduction and key to genera. Proc. Biol. Soc. Wash. 90:615–647.

Based, in part, on specimens collected at Patuxent Wildlife Research Center.

Wise, D. H. 1979. Effects of an experimental increase in prey abundance upon the reproductive rates of two orb-weaving spider species (Araneae: Araneidae). Oecologia 41:289–300.

Studies conducted on a portion of Patuxent South Tract.

Wise, D. H. 1981. Inter- and intraspecific effects of density manipulations upon females of two orb-weaving spiders (Araneae: Araneidae). Oecologia 48:252–256.

Experiments performed in deciduous-pine forest on South Tract.

Wise, D. H. 1982. Predation by a commensal spider, *Argyrodes trigonum,* upon its host: an experimental study. J. Arachnol. 10:111–116.

Field experiments performed at Patuxent.

Wise, D. H. 1983. Variable life history of the filmy dome spider. Pages 330–331 *in* W. G. Eberhard, Y. D. Lubin, and B. C. Robinson, eds. Proceedings of the Ninth International Conference of Arachnology, Panama 1983. Smithsonian Institution, Washington, DC. 333 pp.

Seasonal changes in size structure observed and field experiments performed at Patuxent.

Wise, D. H. 1983. Competitive mechanisms in a food-limited species: relative importance of interference and exploitative interactions among labyrinth spiders (Araneae: Araneidae). Oecologia 58:1–9.

Field experiments conducted at Patuxent.

Wise, D. H. 1984. Phenology and life history of the filmy dome spider (Araneae: Linyphiidae) in two local Maryland populations. Psyche 91:267–288.

Patuxent Wildlife Research Center was one of two sites at which extensive life history studies were conducted.

Wise, D. H. 1984. The role of competition in spider communities: insights from field experiments with a model organism. Pages 42–53 *in* D. R. Strong, Jr., D. Simberloff, L. G. Abele, and A. B. Thistle, eds. Ecological communities: conceptual issues and the evidence. Princeton University Press. xiii + 613 pp.

Field experiments reviewed, summarized, and interpreted.

Wise, D. H., and J. L. Barata. 1983. Prey of two syntopic spiders with different web structures. J. Arachnol. 11:271–281.

Prey collected from webs of spiders on three different areas of Patuxent Wildlife Research Center.

Zeve, V. H., D. L. Price, and C. M. Herman. 1966. Electron microscope study of *Sarcocystis* sp. Exp. Parasitol. 18:338–346.

Infected grackles obtained from Patuxent.

50272-101

REPORT DOCUMENTATION PAGE

1. REPORT NO. Biological Report 88(2)

2.

3. Recipient's Accession No.

4. Title and Subtitle
An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife Research Center: 1940-1987

5. Report Date January 1988

6.

7. Author(s) Russell J. Hall

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
Patuxent Wildlife Research Center
U.S. Fish and Wildlife Service
Laurel, MD 20708

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
Patuxent Wildlife Research Center
U.S. Fish and Wildlife Service
Laurel, MD 20708

13. Type of Report & Period Covered

14.

15. Supplementary Notes
Key words: Patuxent, wildlife research, wildlife refuge, population ecology, Maryland, Patuxent River, Chesapeake Bay watershed

16. Abstract (Limit: 200 words)

This bibliography lists more than 200 works on subjects relating to natural environments on the Patuxent Wildlife Research Center. Appropriate annotations are included for most works. Most deal with aspects of wildlife ecology, but studies of parasites and diseases, environmental contamination, aquatic ecology, entomology, and related subjects are also included.

17. Document Analysis a. Descriptors

Bibliographies

b. Identifiers/Open-Ended Terms

Patuxent Wildlife Research Center

c. COSATI Field/Group

18. Availability Statement:
Release unlimited

19. Security Class (This Report) Unclassified

20. Security Class (This Page) Unclassified

21. No. of Pages 16

22. Price

(See ANSI–Z39.18) *See Instructions on Reverse* OPTIONAL FORM 272 (4–77)
(Formerly NTIS–35)
Department of Commerce

☆ U.S. Government Printing Office: 1988—573-205/80000

17

END

FILMED

02-03-89